

50 YEARS

NACHI

NACHI EUROPE GmbH

OUR SYNERGY
YOUR PERFORMANCE

HYDRAULIC UNIT NSPi-SERIES



CELEBRATE THE POLE POSITION



**TOP
ECO
LEADER**

Energy-efficient
with 69%
energy savings

NSPi-SERIES

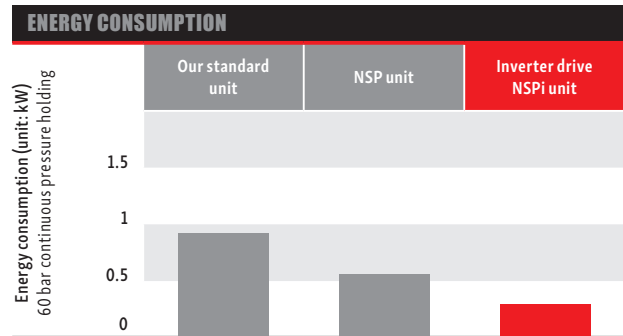
CONFORM TO PREMIUM EFFICIENCY – IE3

Energy savings

Energy consumption reduced by 69%

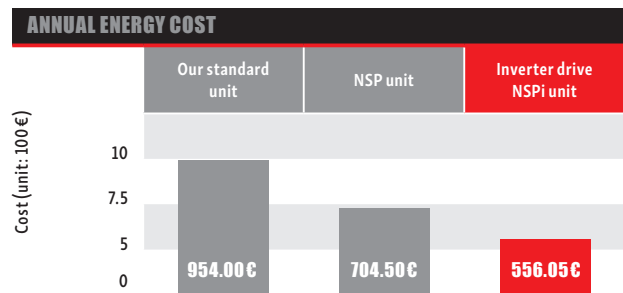
(compared to our standard unit during pressure holding mode)

The basic NSP unit consumes about 46% less energy than our standard unit. By adding the inverter drive and an IE3 efficient e-motor the NSPi achieves energy savings of up to 69% compared to our standard unit.



Energy costs reduced by 42%

Compared to our standard unit, the NSP unit cuts about 25% from energy bills and the inverter drive NSPi unit saves 42%.



Reduces annual CO₂ emissions by two tons

The inverter drive NSPi unit saves about 42% CO₂ emissions in comparison to our standard unit.

- ▶ Equivalent to two hectares of forest.

METHOD FOR CALCULATING ENERGY COSTS AND CO ₂ EMISSIONS	
Yearly operating time	8000 hours
Pressure holding	17 hours/day
Discharging	5 hours/day
Energy unit cost	0.12 €/kWh
CO ₂ emissions factor*	0.555 kgCO ₂ /kWh

*CO₂ emissions factor: Default value set by Ministry of Economy Trade and Industry & Ministry of the Environment Ordinance Number 3, 2006.

Low noise level

Excellent 53dB (A)

During pressure holding the noise level is as quiet as in a relaxing coffee shop.

The inverter drive saves energy and increases comfort at the same time.

(60 bar continuous pressure holding - NSP-10E-22V1A4-21)



Just replace your conventional hydraulic unit with our NSPi and save energy.

Compact

Same size even with inverter drive

If you are using an NSP unit now, a replacement with NSPi without redesigning your machine is possible because it is almost the same size as the NSP unit. Replacing to an inverter driven NSPi unit means even greater energy savings.

- ▶ Replacement without machine modification is possible

BUILT-IN INVERTER VERSIONS

10L
(oil reservoir)



20L
(oil reservoir)

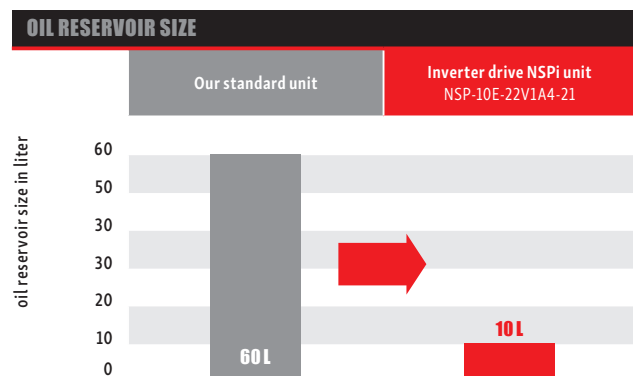
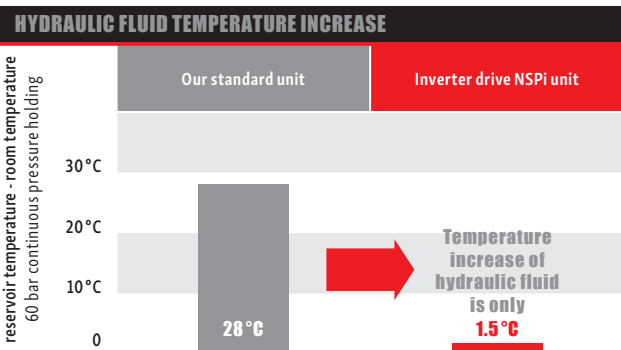


Decrease the oil temperature rise

1.5°C increase in ambient temperature

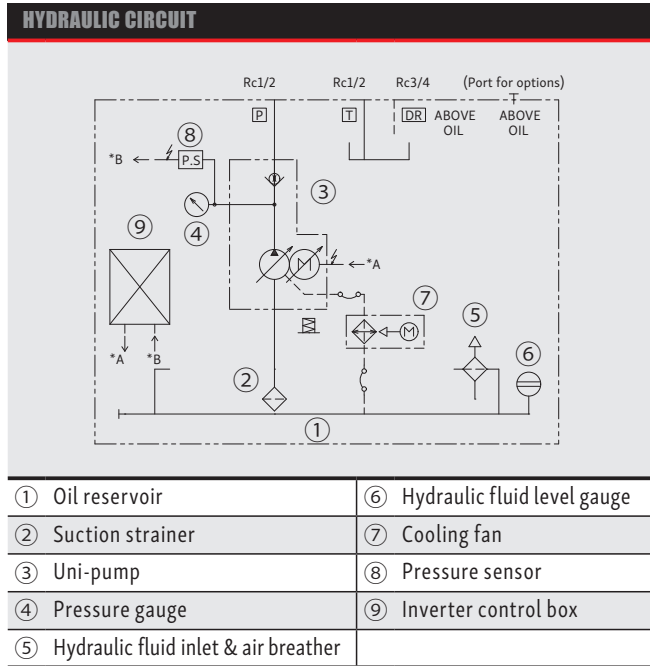
The NSPi series benefits your entire system by lowering oil temperature to improve machining accuracy, lengthen the life of seals and hydraulic fluid and reduce factory air conditioning costs.

- ▶ Improve machining accuracy
- ▶ Longer life on seals and fluid oil
- ▶ Reduce maintenance cost
- ▶ Reduces the amount of oil required in the oil reservoir by the factor 6
- ▶ Saving costs by refusing additional oil cooler

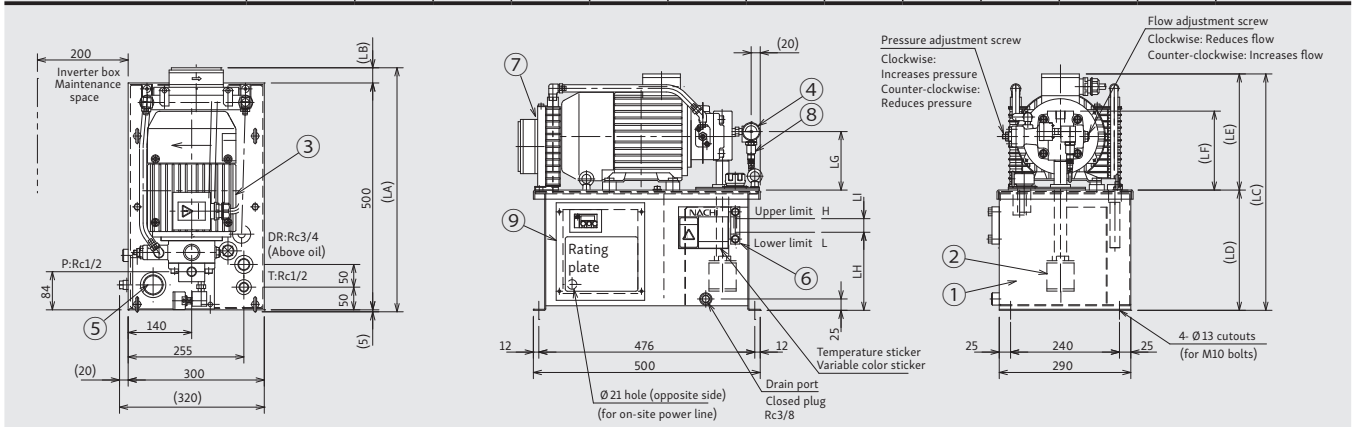


SPECIFICATIONS	
Power supply	200V: 3Phase AC200~240V, 50/60Hz 400V: 3Phase AC380~480V, 50/60Hz
Rated input current	200V: 9.7A/1.5kW, 13.4A/2.2kW 400V: 5.9A/1.5kW, 8.2A/2.2kW Not including the inlet current for fan cooler.
Pressure range	A2: 15~40 bar A3: 35~60 bar A4: 55~80 bar
Output flow (at no load)	OA□: 14L/min 1A□: 28L/min
Hydraulic fluid	Standard mineral-based hydraulic fluid (equivalent to ISO VG 32)
Hydraulic fluid temperature	Use at temperatures below 60°C.
Color of paint	Munsell No. N1 (semigloss), JPMA No. AN-10 equivalent
Ambient temperature/humidity	0 to 35°C/20 to 85% RH (no condensation) (Keep the unit away from water-soluble cutting fluid mist.)

Enter "X1" in the optional code section if AC230V is used as the power source. Then AC230V type fan cooler is applied.



INSTALLATION DIMENSIONS													
Model	Motor (kW-P)	Size (mm)											Estimated weight (kg)
		LA	LB	LC	LD	LE	LF	LG	LH	LI	H	L	
NSP-10E-15V□A□-21	1.5-4	510	5	501	265	236	164	119	172	30	10L	8.5L	46
NSP-10E-22V1A□-21	2.2-4	540	35	521		256	174	129					51
NSP-20E-15V1A□-21	1.5-4	510	5	601	365	236	164	119	252	50	20L	16L	49
NSP-20E-22V1A□-21	2.2-4	540	35	621		256	174	129					54



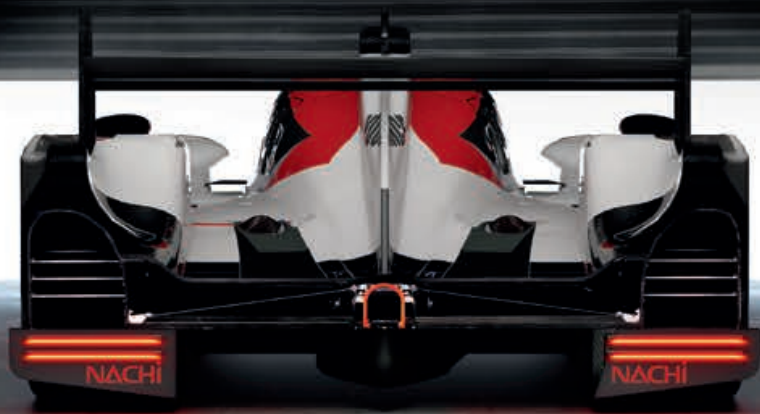
Weight estimate does not include hydraulic fluid



Precautions

- ▶ Turning the inverter on and off by cutting the main power supply (circuit breaker) significantly reduces the lifespan of the inverter and should be limited to once an hour or less. Contact us if you need to start and stop operations frequently.
- ▶ On changing the parameter for the inverter, only use parameters shown in the instruction manual. Otherwise, it may not work normally.
- ▶ Use a 13mm diameter two-meter long flexible hose rated for maximum 140bar to connect the hydraulic unit's P port (discharge port) and the external manifold (or actuator).
- ▶ Maximum peak pressure (set pressure + surge pressure) must be within 140bar. Install a relief valve on the hydraulic circuit side to cut surges if peak pressure is higher than 140bar.
- ▶ The Volume of leakage on external hydraulic circuits must be less than 1L/min. Consult us if leakage on the external hydraulic circuit is greater than 1L/min.
- ▶ The volume of hydraulic fluid in the oil reservoir must stay within the range visible on the fluid level gage (10L: approximately 1.5L, 20L: approximately 4L).

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